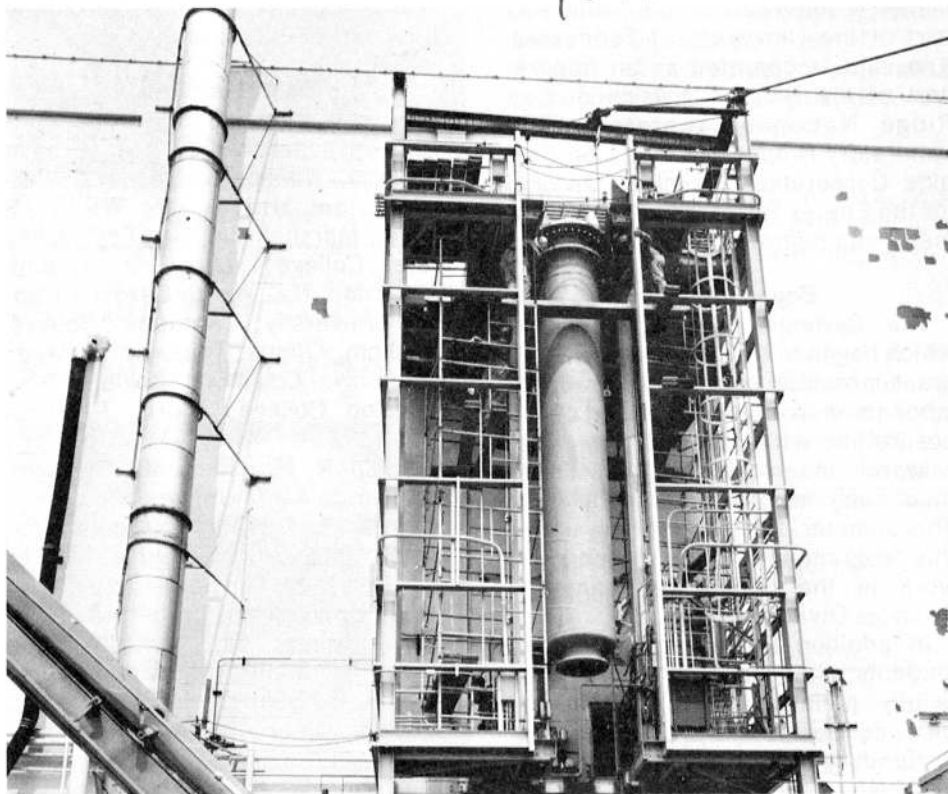


Nuclear Division News



A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 7 No. 15/July 22, 1976



BOILER SHIELD—A boiler module has been erected in a test stand at the west end of Building 9201-3 in the Y-12 Plant for studies related to the potassium vapor topping cycle program. Workmen are shown mounting a steel shield around the boiler.

ORNL Bimonthly Colloquium Scheduled

The next Oak Ridge National Laboratory Bimonthly Colloquium will be held in the auditorium of the American Museum of Atomic Energy in Oak Ridge on Tuesday, July 27 at 7:30 p.m.

Jim Callen, Thermonuclear Division, will discuss *Major Advancements in TOKAMAK Plasma Confinement and Heating*. Following the technical presentation, Laboratory Director Herman Postma will comment

on *Funds for Foreign Travel - Problems and Projections*, after which he will answer questions from the floor on this and other topics of general interest.

A badge will be required for admission. Refreshments will be served following the colloquium.

Potassium vapor topping cycle program could cut power plant fuel consumption

A boiler module for use in Oak Ridge National Laboratory's potassium vapor topping cycle program has been mounted in a test stand to study the flow and heat transfer characteristics of boiling potassium. The purpose of the potassium vapor topping cycle program is to cut fuel consumption in power plants up to 25 percent by increasing the thermal efficiency from 40 to 50 percent. This will also reduce the amount of waste heat that is released to the environment.

Natural gas fuel

The stainless steel module, built in an ORNL shop, is 7 meters long and weighs 2900 kg. It will be loaded with potassium and heated by natural gas. The module will operate at a thermal power level of about 2000 Kilowatts but will not be used to produce electricity.

A commercial-size (1000 MW(e)) power plant would use 148 boiler modules like the one under test, according to Arthur Fraas, head of the High Temperature Power Conversion Systems Section. He said that an actual system could use readily available coal as the heat source.

Steam inefficient

Currently, power plant efficiency is limited because of the almost univer-

sal use of steam as the working fluid. Although higher steam temperatures increase efficiency, about 540 degrees is the practical limit. At higher temperatures than this, the tubes and pipes begin to weaken and corrosion, caused by the steam at high pressures, seriously shortens the life of the steam generator.

The system design developed by ORNL is expected to extend these engineering limits by using a potassium cycle coupled to the steam cycle. In this system potassium, a metal which melts at 63 degrees C, is boiled to produce a low pressure but high temperature (815 degrees C) vapor. This high temperature vapor is used to drive a turbine which in turn drives an electric generator. The vapor emerging from the turbine is still hot enough to make steam at the customary 540 degrees C for a conventional steam turbine cycle which also produces electricity.

Assisting Fraas in the program are Robert Holcomb, Garland Samuels and Robert MacPherson. David Lloyd and Ralph Guymon are project engineers in charge of the construction and operation of the test boiler.

The potassium vapor topping cycle system research is being performed for the Energy Research and Development Administration.

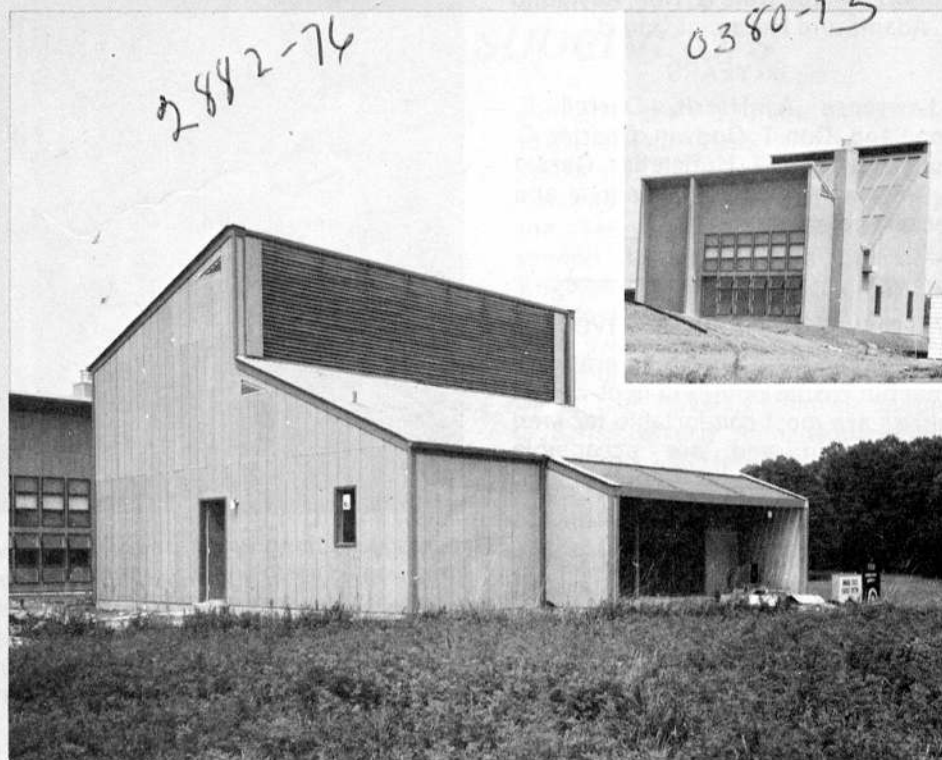
inside ...

The four-year-old Carnegie Summer Program, supported by New York's Carnegie Corporation, has brought 22 students and faculty to the University of Tennessee-Oak Ridge Graduate School of Biomedical Sciences. A story about the program and how its participants spend their summer is on page two.

Other features this issue include:

- Choosing an air conditioner..... page 4
- Question Box..... page 5
- Tucker on Kirlian Photography..... page 6
- Dr. Lincoln..... page 7

Dedication ceremonies set for July 30



A ceremony will be held next Friday, July 30, in Knoxville to dedicate the Annual Cycle Energy System demonstration house (left) and the solar house (inset), built as part of a joint venture involving the Energy Research and Development Administration (and the Oak Ridge National Laboratory), the University of Tennessee, the Tennessee Valley Authority and the Department of Housing and Urban Development. The program and brief open house will feature speakers from the sponsoring agencies.

The two houses, alike in architectural and thermal insulation design, have been built to test and compare two different heating and cooling systems in a quest for the more economic use of energy.



BIOMEDICAL RESEARCH— Hazel Taylor, Edison, Ga., a student at Fort Valley State College, is participating in the 10-week Carnegie Summer Program at Oak Ridge National Laboratory.

anniversaries

Y-12 PLANT

30 YEARS

Athala H. Dow, Accounting and Budget; Eugene W. Woodward, Buildings, Grounds and Maintenance Shops; Harry P. Templeton Jr., Technical Information Services; and Mark D. Griffiths, Dimensional Inspection.

25 YEARS

Raymond D. Bass, Edward E. Dunn, Elmer W. Wilder, Robert B. Smith, Lathrisia P. Tilley, Agnes D. Gracey, Albert H. Wilson, Richard E. Sladky, Lubirda T. Woods, Clon H. Felker Jr., Dexter N. Williams, Thomas E. Todd, James R. Ownby, Bobby A. Cooper and Willie T. Wright.

20 YEARS

Dean H. Pierce, J. C. Potts, Walter B. Goode Jr. and James E. Pickell.

GENERAL STAFF

30 YEARS

Helen R. Ball, Areties H. McKamey and Odis Cate, all of the General Accounting Division.

25 YEARS

Mary P. Feezell and Curtis C. Webster.

ORGDP

30 YEARS

Priscilla J. Teague, Engineering Division; Claude F. Martin, Heavy Equipment Maintenance; and Robert C. Hammonds, Grounds Maintenance.

25 YEARS

Harry M. Sartelle Jr., Seth J. Wheatley and Marlin S. Dill.

20 YEARS

John C. Gaddis Jr.

PADUCAH

25 YEARS

Archie C. Miller Jr., Arthur K. Edwards, Lawrence H. Brunson, Gerald

F. Lotz, Henry M. Morris, Dudley L. Castro, George A. Stroud, William L. Shipwash, A. Bruce Temple, Fred W. Hall, Robert E. Simmons and Robert E. Ligon.

20 YEARS

Bernard W. Tilford.

ORNL

30 YEARS

Rasho H. Winget Jr., Plant and Equipment Division; Thomas E. Cole, Reactor Division; John C. Posey, Operations Division; Don E. Ferguson, Chemical Technology Division; George H. Job, General Engineering; Carrie L. Wells, Biology Division; Emine W. Rosenbaum, Plant and Equipment Division, and George R. Wilson, Analytical Chemistry Division.

25 YEARS

Donald E. Horner, James V. Harris, Ronald L. Hickey, Arthur Cardwell Jr., Robert J. Kedl, Dale G. Noe, Raymond K. Adams and Hermon L. Lloyd.

20 YEARS

Lawrence A. Harris, Darrell E. Copeland, Don T. Godwin, Charles C. Robinson, John T. Huffstetler, Gerald G. Bakalar, William R. Ridenour and Jackie G. Rogers.

Warm weather energy-saver

Dress for the higher temperatures. Neat but casual clothes of light-weight fabrics are most comfortable for men and women and are acceptable almost everywhere during the summer.

On cooler days and during cooler hours, open the windows instead of using air-conditioning or electric fans.

Turn off the furnace pilot light. But be sure it is re-ignited before you turn the furnace on again.

19 students participate in Carnegie Summer program

Nineteen students and three faculty members from 12 colleges and universities are participating in a 10-week summer training program at the University of Tennessee-Oak Ridge Graduate School of Biomedical Sciences under a program supported by a grant from the Carnegie Corporation of New York.

The Biomedical School, which is part of the University of Tennessee, Knoxville, is operated as an integral part of the Biology Division of Oak Ridge National Laboratory. The Laboratory is operated by Union Carbide Corporation's Nuclear Division for the Energy Research and Development Administration.

Began in 1972

The Carnegie Summer Program, which began in 1972 with a \$232,000 grant, provides black undergraduate students with the opportunity of exposure to a wide range of biomedical research in an effort to encourage their entry into the biomedical field. This summer, for the first time under this program, four of the students will work in the ORNL Environmental Sciences Division.

In addition to the undergraduate students, the program also affords faculty members of predominantly black colleges and universities an opportunity to conduct research projects at ORNL to expand their professional expertise. The grant provides a stipend for study materials and living expenses through the 10-week period.

Typical day

A typical day for a student consists of about one and one-half hours of classroom study and seven hours of research work in one of the Biology Division's areas of research—including cancer biology, biochemistry, biophysics, and mutagenesis and genetics laboratories—or in Environmental Sciences Division areas. Their research work is performed under

the supervision of professional staff members. Students also have an opportunity to hear several outside guest lecturers during the program.

The program is directed by Franklin D. Hamilton, associate professor of biomedical sciences at UT and consultant to the Biology Division. He is a native of Quincy, Fla., and holds a Ph.D. degree in biochemistry from the University of Pittsburgh.

Students listed

Students participating in this summer's Carnegie program are: L'Tanya J. Bailey, Winston-Salem, N.C., Winston-Salem University; Willie M. Barret, Marshallville, Ga., Fort Valley State College; Larry V. Blount, Warrenton, N.C., North Carolina Central University; Anthony Boakye, Berekum, Ghana, Tougaloo College; James K. Coleman, Boyle, Miss., Tougaloo College; Gloria J. Davis, Selma, Ala., Knoxville College; Reginald R. Hurchins, Mt. Pleasant, Fla., Florida A & M University.

Byron V. DuVall, St. Louis, Mo., Xavier University; Gerald E. Farmer and Gerry B. Farmer, Tampa, Fla., Xavier University; Elizabeth A. Johnson, Chicago, Ill., Jackson State University; Mallika Maniam, Greensboro, N. C., Bennett College; Rita C. Nzeribe, Nigeria, Bennett College; Gary D. Perkins, Bakersfield, Calif., University of California at San Diego.

Sharron D. Richardson, Pensacola, Fla., Florida A & M University; Corine Ross, Jackson, Tenn., Knoxville College; Gregory W. Ross, Shelby, N. C., North Carolina Central University; Hazel Taylor, Edison, Ga., Fort Valley State College; and Dale M. Watford, Boulder, Col., Jarvis Christian College.

Visiting faculty members participating in the program are: Bam Mehrotra, Tougaloo College, Tougaloo, Miss.; Subdayya Shetty, Florida A & M University, Tallahassee, Fla.; and Vijaya Melnick, Federal City College, Washington, D.C.



MAN-OF-THE-YEAR AWARD— Lennis H. Thomas, Y-12 Plant Maintenance, has received the Refrigeration Service Engineering Society's man-of-the-year award for the State of Tennessee. He is a charter member of the Knoxville Chapter of RSES, having served as secretary and treasurer, and is presently teaching a refrigeration shop course in adult education at Fulton High School. Thomas, left, receives the award from Hugh Skeen, a former international president of RSES.



Mabel E. Tyer

Mabel Tyer promoted to ER representative

Mabel E. Tyer has been promoted to an Employee Relations Representative at the Y-12 Plant.

A native of Paducah, Miss Tyer has been with Union Carbide more than 31 years, working as a secretary in the Chemical, Engineering and Development Divisions. Most recently, she has been in the Employee Relations Division, as secretary to H. G. P. Snyder. A certified professional secretary, she has attended the University of Tennessee.

In her new position in Y-12, Miss Tyer will participate primarily employment activities involving weekly salaried employees.

Miss Tyer is very active in the National Secretaries Association and is a Pink Lady at the Oak Ridge Hospital. She is also on the occupations committee of Harriman State's Vocational-Technical School.

She lives at 220 North Purdue Avenue, Oak Ridge.

patents granted

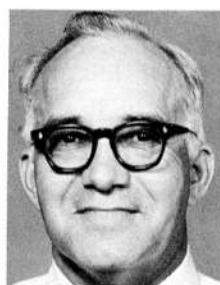
To William A. Bell Jr. and Allen M. Veach, both of ORNL, for "Extraction Electrode Geometry for a Calutron."

To Thomas C. Quinby, ORNL, "Targets for the Production of Radioisotopes and Method of Assembly."

To Cressie E. Holcombe Jr. and Douglas D. Smith, both of the Y-12 Plant, for "Oxygen Sensitive, Refractory Oxide Composition."

To Ronald L. Beatty, ORNL, for "Process for Preparing Metal-Carbide-Containing Microspheres from Metal-Loaded Resin Beads."

Harriman, and have three daughters, Rebecca, Linda and Susan.



R. S. Hensley

Raymond S. Hensley has been named a maintenance supervisor in the Fabrication and Maintenance Division at the Oak Ridge Gaseous Diffusion Plant.

A native of Wallins Creek, Ky., Hensley joined Union Carbide in 1952. He



FEATURED IN 'WORLD'—William S. Lyon, Analytical Chemistry Division at Oak Ridge National Laboratory, is featured in the column "Our Technology Experts" in the June issue of Union Carbide World. Lyon, who joined the Nuclear Division at Y-12 in 1947 before coming to ORNL in 1949, is head of Analytical Chemistry's nuclear and physics methods group and is involved in neutron activation analysis. The above photo of Lyon at work appears on page four of the June issue.

Richmond is Failla Lecturer

Chester R. Richmond, associate director for biomedical and environmental sciences at Oak Ridge National Laboratory, was unanimously designated by the Awards and Honors Committee of the Radiation Research Society at its fourteenth Failla Memorial Lecturer.

Richmond presented the lecture at the Society's annual scientific meeting last month in San Francisco. His topic was "Energy, Environment and Health: What Can We Learn from the Nuclear Experience?"

The Failla Lecture was established in 1962 in honor of Physicist Gioacchino Failla, a founder and past president of the Radiation Research Society. Each year, a scientist recognized for distinguished contributions to the field of radiation research is selected as the Failla Lecturer.

A native of South Amboy, N. J., Richmond received his B.S. degree in biology from New Jersey State



Chester R. Richmond

College and his master's degree in biology and Ph.D. in biology-physiology from the University of New Mexico.

From 1968 to 1971, he was on the staff at the Division of Biology and Medicine of the U. S. Atomic Energy Commission in Washington. Prior to his Washington service and before joining the ORNL staff in 1974, he had been associated since 1955 with the Los Alamos Scientific Laboratory, Los Alamos, N.M., as a staff member of the biomedical research group, section and group leader, and alternate Health Division leader.

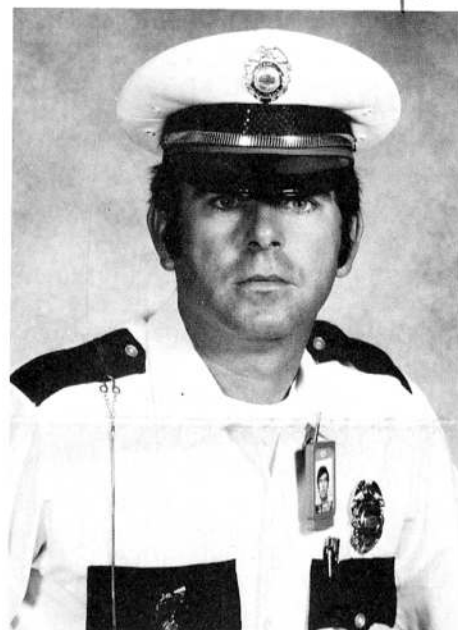
In 1974, Richmond was named a recipient of the AEC's Ernest Orlando Lawrence Memorial Award for "significant contributions to the development, use or control of atomic energy."

Richmond has authored more than 70 scientific papers. He currently is serving a six-year term as a member of the National Council on Radiation Protection and Measurements.

Richmond's selection as Failla Lecturer brings the number of ORNL staff members selected during the 14-year period to three. Alvin Weinberg, former ORNL director, was the fifth lecturer; and Richard Setlow, formerly with the ORNL Biology Division, presented the eleventh lecture.

The Richmond family lives at 108 Westwind Drive in Oak Ridge.

Hamilton Promoted to Y-12 Captaincy



F. Jerry Hamilton

F. Jerry Hamilton has been promoted to a captain in the Fire and Guard Department at the Y-12 Plant.

A native of Clinton, he has been in Y-12 more than five years. He and his wife, Rochelle, live at 404 Highland Drive, Clinton.

ORNL, ORGDP name maintenance supervisors

Roy E. Hicks has been promoted to maintenance supervisor in Oak Ridge National Laboratory's Plant and Equipment Division.

Hicks joined the Nuclear Division in 1952, as a maintenance mechanic at the Oak Ridge Gaseous Diffusion Plant. He came to ORNL as a millwright in 1964; he was a supervisor trainee before his promotion.



R.E. Hicks

A native of Morgan County, Hicks has taken course work at Roane State Community College and through the International Correspondence School. He and his wife, Joyce, live at Route 6,

worked in the Y-12 Plant, transferring to ORGDP in 1955, and worked 11 years at Oak Ridge National Laboratory. He also worked briefly for the Tenelec Corporation. He attended the Milwaukee School of Engineering, Purdue University and the University of Tennessee.

He lives at 2710 Oak Ridge Turnpike with his wife, the former Imogene Davis. They have six children, Jaqueta Salts, Beverly Allin, Noble, Swift, Speed and Juel Hensley. Speed is employed at ORGDP and Swift Hensley is attending the Training and Technology program at the Y-12 Plant.

Warm weather energy-saver

Use vents and exhaust fans to pull heat and moisture from attics, kitchens, and laundries directly to the outside.

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2275-76

Looking for an air conditioner? 'Efficiency' word to remember

As the summer wears on, those who don't already have air conditioning may begin considering it, and owners of aging units may be thinking of replacements. But what size, what brand—and what is a reasonable price? As a guide for the confused consumer, the following is the beginning of a two-part article (based on two recent ORNL Energy Division reports) examining factors to be considered in choosing and operating room air conditioners for maximum efficiency.

by Karen Cromer

Public relations intern, University of Tennessee

When you're shopping for a room air conditioner, what factors do you consider?

"Beware of basing your choice solely on the advertised differences between models," warns John C. Moyers in his Oak Ridge National Laboratory report "The Room Air Conditioner as an Energy Consumer."

Some of the differences that often confuse the buyer are: noise level claims, air distributor features, number of fan speeds, appearance features, ease of installation and component quality. "Although highly advertised, these features have little or nothing to do with cooling efficiency," says Moyers.

Moyers and a former ORNL with the University of Illinois), agree that efficiency is the key word in selecting an air conditioner. Both men have conducted in-depth studies on room air conditioners and how to choose and operate one for maximum effectiveness. Their reports offer practical suggestions for the savings-minded consumer.

Look closely for a certified AHAM nameplate supplying data on cooling capacity and power consumption, says Moyers in his report. This certification program, sponsored by the Association of Home Appliance Manufacturers (AHAM), has labeled more than 90 percent of all U.S.-made air conditioners.

Directory available

All units certified under the AHAM program are listed with their voltage, cooling capacity, amps, and efficiencies in the *Directory of Certified Room Air Conditioners*. Issued quarterly by AHAM, this directory can be obtained by writing AHAM, 20 N. Wacker Drive, Chicago, Ill., 60606; or by calling 312-236-2921.

The Electrical Testing Laboratories (ETL), Inc., of New York administers this program by testing units for compliance with certification standards. The ratings are listed on the nameplate, and an AHAM certification seal is affixed to

each unit. The manufacturer does not know which models will be tested, or when ETL will conduct the test.

Efficiency measures

The Energy Efficiency Ratio (EER) is the unit used to measure the efficiency of an air conditioner. The EER is defined as the unit's cooling capacity (BTU/hr) divided by its power requirements (watts) at a specified test condition. The EER can be obtained from an air conditioner's nameplate by dividing the cooling capacity by the power requirement. The higher the EER, the more efficient the model.

The Department of Commerce recently began a voluntary efficiency labeling program in which air conditioners are affixed with a temporary label displaying the EER. About 95 percent of U.S. air conditioning units are wearing these labels, Pilati states in his ORNL report, "Room Air-Conditioner Lifetime Cost Considerations: Annual Operating Hours and Efficiencies."

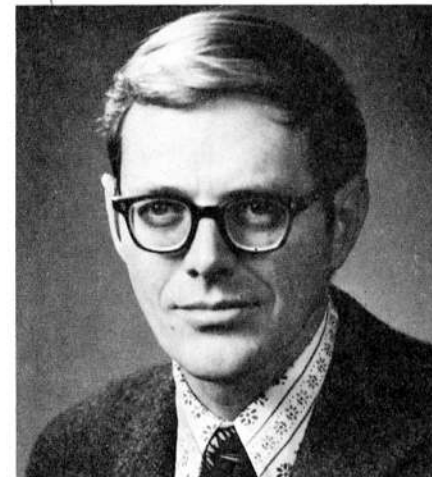
Air conditioning cooling ability is measured in BTU's—British Thermal Units. This rating indicates the amount of heat an air conditioner will remove from a room each hour. There is no firm rule telling how many BTU's will be needed for a particular area. Room sizes, number of persons in the room, climate, adjoining cooled rooms—all must be taken into consideration.

How can you determine what size unit is right for you? Manufacturers suggest asking the dealer, who then checks a cooling guide. Consumers, however, can check for themselves with a free pamphlet from the National Bureau of Standards. This booklet, "Energy Efficiency in Room Air Conditioners," lets you choose a suitable model and determine its approximate operating costs. For a copy of the booklet, write Consumer Product Information Center, Pueblo, Colo. 81009.

Next issue: Prices, continuous vs. automatic fans, operating tips.



John E. Cunningham



Herman Postma

Elected to ANS Board

John E. Cunningham, associate director of the Metals and Ceramics Division, Oak Ridge National Laboratory, and Herman Postma, ORNL director, have been elected to serve three-year terms on the American Nuclear Society's Board of Directors.

Melvin J. Feldman, who completed his term as the Society's president in June, continues as a member of the Board. Feldman is program manager of engineering systems for the Liquid Metal Fast Breeder Reactor Fuel Reprocessing program at ORNL.

Cunningham joined ORNL in 1946 and two years later became supervisor of Metals and Ceramics Division's Fabrication Laboratory. He was made assistant director of the Division in 1955 and associate director in 1968.

He received the B.S. degree from the University of Illinois and the M.S. degree from the University of Tennessee, both in metallurgical engineering.

Cunningham has been active on several ANS committees and in 1974 was elected as ANS Fellow. He has been a member of the American Society for Metals for more than 30 years and was elected a Fellow of that Society in 1974. His other professional memberships include Sigma Xi, the American Institute of Mining and the American Society for Testing and Materials.

He has been involved in several international conferences and is 1976 chairman of the advisory board for the Department of Ceramic Engineering at the University of Illinois.

Postma joined ORNL in the Thermonuclear Division in 1959. In 1963 he spent a year as a visiting scientist at the FOM-Instituut voor Plasma Fysica in The Netherlands.

He was named associate director of the Thermonuclear Division in 1966, and was appointed its director for the following year. In 1974 he was appointed director of ORNL, succeeding Alvin M. Weinberg.

A native of Wilmington, N.C., Postma received the B.S. degree from Duke University and the M.S. and Ph.D. degrees from Harvard University. All were in physics.

He is a Fellow of the American Physical Society and the American Association for the Advancement of Science. He has been a member of the Atomic Energy Commission's Com-

mittee on Plasma Physics Research, the Controlled Thermonuclear Research Standing Committee and the Controlled Thermonuclear Research ad hoc committee on lasers.

ORNL Credit Union initiates Education Assistance Loans

Through the cooperation for the Tennessee Student Assistance Corporation, the ORNL Employees Federal Credit Union is now offering low-interest educational assistance loans to members.

The new loan program enables qualified students at either the undergraduate or graduate level to secure long-term loans for educational expenses while enrolled at approved colleges, universities, vocational and technical schools, and private business colleges.

Loans up to \$2,500 per academic year, or the amount of the cost of the member's education (whichever is less), can be authorized. An aggregate amount of \$7,500 for undergraduate students and \$10,000 for graduate students is the established limit.

Members can get more information by calling the Credit Union and asking for the Educational Assistance Loan counselor. Those wishing to apply for the 1976 fall term should make arrangements as soon as possible.

nuclear division news

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UNION CARBIDE CORPORATION
NUCLEAR DIVISION

—Member—

INTERNATIONAL ASSOCIATION OF
BUSINESS COMMUNICATORS

Office

Post Office Box Y

Oak Ridge, Tenn. 37830

wanted

Y-12 PLANT

RIDE from Montvale Station Road, Maryville, to Central Portal, straight day. Marsha Hall, plant phone 3-5851, home phone Maryville 984-7452.

ORGDP

CAR POOL RIDER from Cedar Lane, Knoxville, to Portal 2, straight day. Paul Wright, extension 3-9651.



WILL START CAR POOL from North Knoxville, Lincoln Park section, to Portal 2, 4 or 3, 7:45 - 4:15 or 8 to 4:30 shift. David Thompson, extension 3-9651.

JOIN CAR POOL from Broome Road, Knoxville, Walker Springs area, to Portal 2, straight day. James Reed, plant phone 3-3178, home phone Knoxville 693-9005.

question box

If you have questions on company policy, write the Editor, Nuclear Division News (or telephone your question in, either to the Editor, or to your plant contact). Space limitations may require some editing, but pertinent subject matter will not be omitted. Your name will not be used, and you will be given a personal answer if you so desire.

Single vs family coverage

QUESTION: Please explain why the Major Medical Plan cannot be changed from a family policy to a single coverage. I have sued my husband for divorce. He has delayed the action for nearly four months, yet I am still covering him to the tune of nearly \$7 per month for benefits. I believe that there should be a change made that will enable circumstances such as this to be eliminated. Why are divorce papers necessary to change the Blue Cross plan furnished by the Company?

ANSWER: As an employee, you can change your coverage in the Hospitalization, Special or Major Medical Expense Plans from family coverage to single coverage at any time you wish to do so. Divorce papers are not necessary.

Those, however, who want to change from single to family coverage must do so within thirty days after acquiring eligible dependents. Otherwise, evidence of insurability must be furnished and accepted by the insurance company before dependents can be covered.

In the case you described, there must be a misunderstanding of some kind. You should visit your Benefit Plans office and sign the necessary enrollment forms for single coverage.

Supplemental insurance rates

QUESTION: I am no authority on insurance rates, but it seems strange that my basic insurance costs less than the supplemental, when the supplemental insurance gives me only half the coverage basic does. Is there a reason for this?

ANSWER: The Company and the employees share the cost for the basic insurance which is provided to employees on a voluntary enrollment basis. Each employee, however, pays the full premium cost for the supplemental insurance. Older employees pay higher premiums for supplemental insurance than younger employees to reflect the higher risk involved. On this basis, some employees' costs per \$1,000 of life insurance are lower for the basic insurance than for the supplemental insurance.

Free lunches

QUESTION: What is the factor which contributes to all Nuclear Division cafeteria employees obtaining free lunches which total several hundred dollars each year? Isn't this practice discriminatory since this gives a number of employees a fringe benefit that other employees do not have? Should this be considered additional income and be reported to IRS as such?

ANSWER: Historically, throughout the food industry, meals are provided free of charge or at a discount rate for those who work in the preparation and serving of food. Generally, this is done because food service workers are required to work at times considered as mealtime for everyone else. The cost of the meals which are provided to Nuclear Division cafeteria employees are considered additional income, and they are reported to IRS and properly taxed.

Brokerage fees

QUESTION: If AT&T finds it advantageous to sell its stock at a five percent discount and not charge brokerage fees (usually eight percent) to its employees and some stockholders, why does Union Carbide still charge us brokerage fees?

ANSWER: Union Carbide adds 30% to the savings each employee places in the Personal Investment Account. It would not be equitable to other PIA participants for those who buy UCC stock to receive a further discount on stock purchases which would not be equally available to those who invest in other options.

As for brokerage fees, the Company does not charge a fee for buying or selling stock. The stockbroker, who handles the sale, makes the charge. This cost is divided proportionately among those who buy or sell on each day. It is believed that those who buy or sell stock should bear this expense.

Incidentally, the brokerage cost for buying or selling stock is not eight percent. It is more like one percent, or approximately 75c per share.

(Please turn to page eight)

division deaths

Vernon C. Hemperly, Y-12's Metallurgical Development Department, died July 8 in the Oak Ridge Hospital.



Mr. Hemperly

A native of Harrisburg, Pa., he joined Union Carbide in 1952 after graduating from Lebanon Valley College. He later was awarded a master's degree from the University of Tennessee.

He is survived by his wife, Eleanor Lynch Hemperly, 311 West Vanderbilt Drive, Oak Ridge; a daughter, Charlotte Hamilton; a brother, Cecil Hemperly; and three grandchildren.

The funeral was held at the Weatherford Mortuary with the Rev. Donald Goodwin officiating.

Baxter O. Crump, Y-12's Alpha Five West Shop, died July 8 in the Oak Ridge Hospital after a 10-month illness.



Mr. Crump

A native of Charlotte, N.C., he had been employed in Y-12 as a machinist since 1951. He lived at 111 South Seneca Road, Oak Ridge.

Mr. Crump is survived by his wife, Eddie Hill Crump; a son, Eddie, and a daughter, Barbara; brothers, Harvey, Jack, Clyde and Bill Crump; sisters, Pauline Crump and Ethel Holtzclaw; and one granddaughter, Sonya Crump.

Services were held at the Weatherford Mortuary with the Rev. Charles Stuckey officiating. Burial followed in the Oak Ridge Memorial Park.

Summer recreation schedule

Monday	Softball Leagues, Clark Center Recreation Park, 6-10 p.m. Table Tennis League, Norwood Junior High School, 7-9:30 p.m. Golf League, Southwest Point (Kingston), 5:30 p.m.
Tuesday	Pistol League, Oak Ridge Sportsmen's Association, 6:30 p.m. Golf League, Deadhorse Lake (I-40 at Highway 162), 5:30 p.m. Camera Club, Cheyenne Hall (Oak Ridge), 7:30 p.m. second Tuesday of each month Softball League, Clark Center Recreation Park, 6-10 p.m.
Wednesday	Rescheduling day for rained-out softball games when necessary, 6 p.m.
Thursday	Badminton (informal), Highland View School (Oak Ridge), 8 p.m. Table tennis (informal), Highland View School, 8 p.m. Golf League, South Hills (Oak Ridge), 5:30 p.m. Softball Leagues, Clark Center Recreation Park, 6 p.m. Family Bowling League, Tri-County Lanes (Norwood), 5:45 p.m.
Saturday	Golf tournaments as announced - monthly at area courses
Sunday	Badminton (informal), Highland View School, 6:30 p.m. Table tennis (informal), Highland View School, 6:30 p.m.

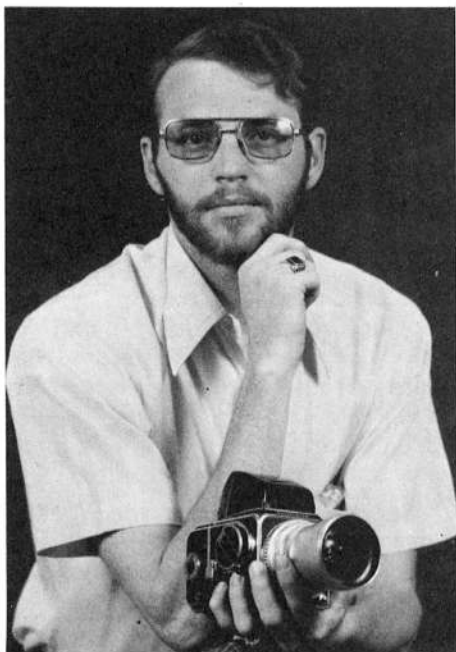
Clark Center Recreation Park will be open through October 1, from 5 a.m. until 11 p.m. daily. The Recreation Office has travel and vacation literature for employees, as well as membership and discount coupons for Disney World, Six Flags over Georgia and Opryland. For more information, call 3-5833.

PM 76-1095



AIDED IN BOND DRIVE—The Oak Ridge Gaseous Plant increased payroll deductions in the recently completed U. S. Savings Bond campaign. In the first row from left are Sam Flanders, ORGDP chairman; Richard Wood, Finance and Materials; Mae Ely, Shift Operations; Faye Duncan, Planning and Analysis; Fred Felt, Engineering; Jim Parker, Separation Systems; Glen Duncan, General Accounting; and Bob Stroutt, Computer Sciences. In the back row are Lynn Carpenter, publicity chairman; Parker O'Shell, Gaseous Diffusion Development; Gene White, Fabrication and Maintenance; Tom Bomar, Employee Relations; Martha Cook, Capacity Expansion; John Passons, Plant Methods and Environmental Management; Bob Lucke, Laboratory; Esther Case, campaign secretary; Sue Kelly, Industrial Participation; Hugh Webb, Purchasing; Rex McNutt, Auditing; Bob Newton, Operations; and Bill Harmon, Barrier Manufacturing.

Kirlian photography busman's holiday for lensman Tucker



Charles Tucker, a staff member in the Photography Department of ORNL's Information Division, has been a professional photographer for 14 years. He learned his trade in the Navy, later becoming a Navy photographer; he has also been industrial and tourism photographer for the State of Tennessee.

Tucker's hobbies include both photography and mysticism studies, which lead naturally to his interest in Kirlian photography. He is past master and guardian of the Rosicrucian Order, a mystical and philosophical fraternity.

Tucker and his wife, Trisha, have two sons, John and Robert.

by Charles Tucker

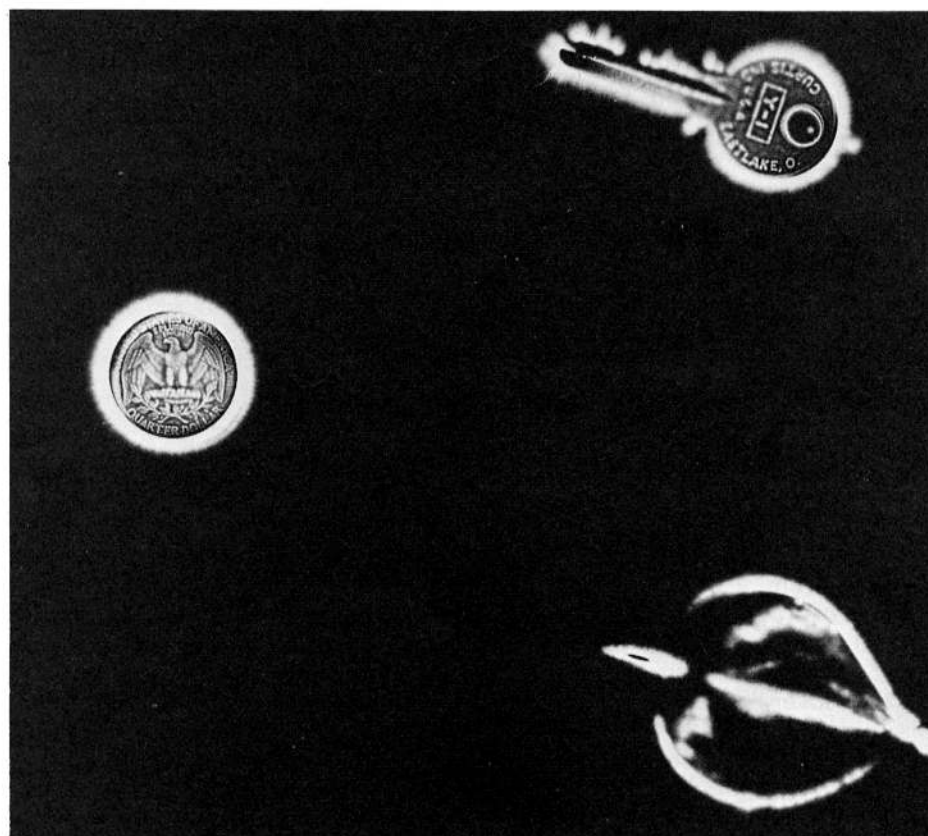
Many persons have hobbies closely allied to their professions. Car mechanics may race autos, pilots may hang glide, scientists may investigate realms of parapsychology. As a professional photographer, I can usually be found with a camera close at hand, whether out hiking, on vacation or simply at home shooting tabletop set-ups for relaxation. One field that I have found fascinating is Kirlian photographic research.

Kirlian photography is a process which supposedly photographs radiations surrounding objects and people, which psychics have claimed to be able to see for ages. It is named after Semyon Kirlian, a Russian scientist who developed the process during the late 1960's.

I have been researching Kirlian photography for four to five years. Most of the information concerning the process is from the Russians, via publications here in the U.S.

Kirlian photography does not use a camera or lens, but is accomplished by introducing a small amount of high voltage, high-frequency current into the subject and recording the subsequent discharge on photographic film. The principle is based on the transformation of non-electrical properties of the photographed subject into electrical ones, via the controlled transfer of a charge from an object to a photographic film.

The actual photograph is made by the following process: the electrical lead from a high voltage, high



The results of the some Tucker's photographic experiments.

frequency output is connected to an electrode plate which is covered with a glass dielectric. The film is placed on the glass, and the grounded object placed on the film. An exposure is then made. (Editor's note: see accompanying photographs.)

Mystics have stated that emotional changes in a person change that person's "aura," or surrounding radiations. Semyon Kirlian states that "the electrical structure of a living organism is not constant, because it depends on its condition at given moments. There is reason to assume that during unexpected

emotional experiences the inherent color in a section changes." This has been substantiated by Dr. Thelma Moss and Kendal Johnson of UCLA.

In my research I have photographed various samples under varying emotional states induced by music (fast, slow, etc.), oriental mantras and physical stimulation. Each sample showed basic changes from a norm taken before the changes were induced. Non-living material always shows an even and consistent aura, whereas living leaves and fingers show constantly changing auras made up of many colors.

Regardless of what science may finally prove the aural phenomenon to be, it is a fascinating area to explore and a beautiful form of photographic art to decorate with.

Softball league

The Snakes and ESD continue to hang on to their underfated ratings in the Atomic League, with the Snakes leading by one game. In the Nuclear League the Streakers have moved to first place, sporting an eight won - three lost record.

League standings follow:

ATOMIC LEAGUE		
TEAM	WON	LOST
Snakes	9	0
ESD	8	0
Shifters	9	1
Gas House Gang	8	1
Bruins	8	3
Artie's Army	6	3
Bio Rejects	6	3
Ecology	5	4
BMS-Bioradicals	5	5
Avengers	4	6
Beta 2 Bunters	3	6
The Steelers	3	7
Ridge Runners	3	7
McPack	2	8
Outlaws	2	8
Rednecks	0	9
Hot Dogs	0	10

NUCLEAR LEAGUE		
TEAM	WON	LOST
The Streakers	8	3
Barrier Bombers	7	3
Terodactyls	7	3
Fes-Kids	7	3
Magnetic Fielders	6	4
Knuckle Balls	6	5
Killer Bees	6	5
Thermos	5	5
Swingers	4	7
Knockers	4	7
Odds & Ends	2	8
Ding-Bats	1	9

ORNL fishing rodeo

Fishing rodeo winners at ORNL for the first half of 1976 are the following:

LARGEMOUTH BASS		WEIGHT
T. L. Miller		7 lbs. 4 ozs.
M. A. Baker		6 lbs. 14 ozs.
Tony R. Bowling		6 lbs. 0 ozs.
SMALLMOUTH BASS		
Darrell Lankford		5 lbs. 8 ozs.
(husband of Joan)		
Charles Keating		5 lbs. 4 ozs.
J. D. Sease		4 lbs. 8 ozs.
STRIPE BASS		
Raymond Shooster		2 lbs. 15 ozs.
(son of R. G.)		
Ralph Clark		1 lbs. 14 ozs.
BREAM (Bluegill)		
Georgette Shooster		1 lbs. 1 ozs.
(wife of R. G.)		
Roscoe Jones		10 ozs.
Becky Bartine		4 ozs.
(daughter of D. E.)		
CRAPPIE		
G. M. Fowler		2 lbs. 8 ozs.
J. R. Justice		2 lbs. 4 ozs.
(retired)		
J. H. Evans		2 lbs. 3 ozs.

HYBRID/ROCK		
Eddie G. Bailiff		19 lbs. 8 ozs.
B. G. Foutz		17 lbs. 8 ozs.
D. E. Coffey		11 lbs. 0 ozs.
ROUGH FISH		
A. D. Ryon		17 lbs. 0 ozs.
John T. Walker		12 lbs. 11 ozs.
Scott Stevens		12 lbs. 7 ozs.
SAUGER		
C. W. Parks		4 lbs. 1 ozs.
Herbert M. Johnson		3 lbs. 5 ozs.
W. H. Brooks		2 lbs. 8 ozs.

Carbide bowling

Charles Baxter with a scratch series of 653 and Edith Duckworth with a 511 led the Carbide Family Mixed League the first week in July. The Oops held the first slot.

The Odd Balls posted high team series with a combined score of 2395.

Golf league

The Kirchler-Marshall duo leads the Southwest Point Golf League, followed by Lay-Creswell.

In the South Hills League it's Pappas-Waldrop, closely trailed by Sherrod-Shelton and Roger-Carter.

Skeet league

ORNLer John Basler led the June skeeters with a 48.723 score. In second place was Roy Hicks, also of ORNL, with 48.720, followed by ORGDPer Ken Moore in third with 48.240.

TROUT		
M. H. Shanks		4 lbs. 12 ozs.
R. I. VanHook		3 lbs. 5 ozs.
George A. West		2 lbs. 13 ozs.

WALLEYE		
Micheline Jones		9 lbs. 8 ozs.
(wife of Roscoe)		
B. S. McCown		5 lbs. 0 ozs.
Kevin Hurt		3 lbs. 13 ozs.
(son of Sam S.)		

Metals & Ceramics Division sets August 7 as picnic date

Members of the Metals and Ceramics Division at Oak Ridge National Laboratory will get together Saturday, August 7, at Clark Center Recreation Park for their annual picnic.

Serving will begin at 2 p.m. Tickets, available in advance from division secretaries, are \$2.50 for adults and \$1.25 for children 6-12, with a \$10 maximum per family. Ticket prices will be slightly higher at the gate.

wanted



Y-12

RIDE from North Hills, Knoxville, to Bear Creek Portal, straight day. H.A. Hanna, plant phone 3-7988, home phone Knoxville 522-0587.



medicine chest

by T. A. Lincoln, M.D.

(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," NUCLEAR DIVISION NEWS, Building 9704-2, Stop 20, Y-12, or call the news editor in your plant, and give him or her your question on the telephone.)

Physician can control foot odor problem

QUESTION: "What can a person do about the very embarrassing problem of foot odor? Surely there has to be a solution to the problem when one has tried every kind of soap, spray and powder; clean socks or stockings; and frequent washings. This particular person even has foot odor when wearing sandals, so exposure to air doesn't seem to help either. Please help! (P.S.: Athlete's foot is not involved, either)."

ANSWER: Foot odor is almost always associated with excessive perspiration, chiefly on the soles and sides of the feet. The odor from the feet is due to the bacterial decomposition of sweat and dead skin which is constantly being shed.

There may be many contributing factors which aggravate the tendency to sweat excessively. Synthetic fibers in socks or synthetic materials in the lining of the shoes do not absorb sweat, so the feet tend to stand in a "pool" of water. Obesity and rarely hyperthyroidism can cause increased sweating. In many people, there appears to be an ill-defined nervous aggravation.

The problem can be controlled by using a 20 percent aluminum chloride alcohol solution, which has to be prescribed by a physician. The feet are thoroughly cleaned with soap and water, all loose scales are rubbed off and the feet are thoroughly dried with a heavy bath towel. A sheet of thin plastic film is then wrapped around each foot, completely covering the soles. The following morning the feet are carefully washed with soap and water to remove the medication.

This procedure is repeated the second night and some physicians recommend even a third consecutive night. After that, it usually need only be repeated once or twice a week, depending on the sweating. The treatment doesn't cure, but it controls an obnoxious problem quite effectively.

The aluminum chloride solution may cause a burning and prickling sensation when it is applied. Cotton socks should be worn. The feet should be kept clean and shoes should be rotated so the feet can be kept as dry as possible between treatment.

Lack of handwashing not a prime infection-spreader

QUESTION: "I have noticed lately an unusually large number of men

who do not wash their hands after using restroom facilities. What health hazards may be potential to them and to those who handle things after them, such as drinking fountain handles, papers, telephones, etc.?"

ANSWER: I'm afraid Americans have seen too many TV soap commercials and have been led to believe that dangerous germs lurk everywhere. Urine is normally sterile and even though not aesthetically attractive, it is harmless. People worry about washing their hands after urinating, yet stick their fingers in their mouths or bite their fingernails without giving it a thought. The average human mouth is a little like a sewer. Every time a person brushes his teeth, a shower of bacteria are pushed into the circulation. Human bites frequently cause severe infections.

Washing one's hands after defecating is of greater concern. Hepatitis virus from carriers can be spread by fecal contamination, as can Cocksackie, echo and other viruses.

The reduction in the frequency of summer diarrheal diseases is probably related mainly to better public health measures rather than to hand washing. The requirements for machine washing of all utensils in restaurants (with the temperature kept high enough to kill organisms), better refrigeration and better treatment of water supplies have made a major difference.

One should indeed wash his hands after defecating, but we should realize that unless it is done thoroughly, it is unlikely to be effective. Sometime when you are in a public restroom, just watch how thoroughly people wash their hands. For the most part it is only a quick rinse. Anyone who thoroughly and meticulously washes his hands with several applications of soap and rinsing would probably be regarded as a bit strange!

The world is full of infectious agents. Respiratory spread is by far the major source of most infections, but occasionally food can be contaminated. Food handlers need to be especially careful. Even if people could put their hands in some type of an electronic washing machine and then have them checked for viruses by a monitor like our extremely sensitive radiation detection instruments, the reduction in infections would probably be disappointingly low.

Y-12 fishing rodeo

The Y-12 fishing rodeo listed 10 categories for the first six months of the year. Winners are shown below:

LARGEMOUTH BASS	WEIGHT
M. D. Hickson	9 lbs. 8 ozs.
L. N. Hendrickson	7 lbs. 8 ozs.
William A. Kramer	7 lbs. 10 ozs.

SMALLMOUTH BASS	
Freeman R. Castleberry	5 lbs. 10 ozs.
Toby Steele (son of A. G.)	5 lbs. 8 ozs.
J. W. Graves	5 lbs. 4 ozs.

STRIPE BASS	
T. D. Newman	3 lbs. 5 1/2 ozs.
C. H. Caylor	3 lbs. 4 ozs.
Golda Caylor (wife of C. H.)	2 lbs. 0 ozs.

BREAM	
Allen Estep (son of M. A.)	14 ozs.
J. V. Haggard	12 ozs.
Kevin Jago (son of W. R.)	7 1/2 ozs.

CRAPPIE	
G. W. Ballew	2 lbs. 4 ozs.
C. J. Fox	2 lbs. 0 ozs. (15 1/2")
James H. Whatley (retired)	2 lbs. 0 ozs. (15")

HYBRID/ROCK	
Jean Cheek (wife of J. E.)	21 lbs. 4 ozs.
Gary Bower	20 lbs. 8 ozs.
Larry R. Walker	18 lbs. 1 ozs.

ROUGH FISH	
R. E. Belcher	14 lbs. 0 ozs.
L. F. DeRoos	11 lbs. 8 ozs.
H. A. Price	7 lbs. 12 ozs.

SAUGER	
C. O. Campbell	4 lbs. 0 ozs.
Emmett L. Moore	3 lbs. 14 ozs.
A. G. Steele, Jr.	3 lbs. 9 ozs.

TROUT	
W. E. Heckert (retired)	3 lbs. 0 ozs.
Joe Jackson (retired)	2 lbs. 6 ozs.

WALLEYE	
Elmer E. Green	6 lbs. 3 ozs.
Charles Graves (son of J. W.)	5 lbs. 8 ozs.
R. A. Hamrick	4 lbs. 14 ozs.

ORGDP fishing rodeo

ORGDP's semi-annual fishing rodeo listed the following roster of winners for the January-June period:

LARGEMOUTH BASS	WEIGHT
Cecil S. Murr	9 lbs. 3 ozs.
D. C. Howard	7 lbs. 13 ozs.
W. M. Ewing	6 lbs. 10 ozs.

SMALLMOUTH BASS	
Rodney L. Graves	5 lbs. 1 ozs.
Bill Price	5 lbs. 0 ozs.
William R. Hartsell	4 lbs. 5 ozs.

STRIPE BASS	
H. E. Walters (retired)	2 lbs. 12 ozs.
J. A. May	2 lbs. 2 ozs. (17 1/2")
Robert F. Hyland	2 lbs. 2 ozs. (16")

BREAM	
Gary Walters (son of H. E.)	15 ozs.
Gene Woody	11 ozs.
Barry Austin (son of Ben A.)	9 ozs.

CRAPPIE	
J. L. Woody	2 lbs. 8 ozs.
Jennie Hickey (wife of M. H.)	1 lbs. 9 ozs.
Wayne D. Leach	1 lbs. 5 ozs.

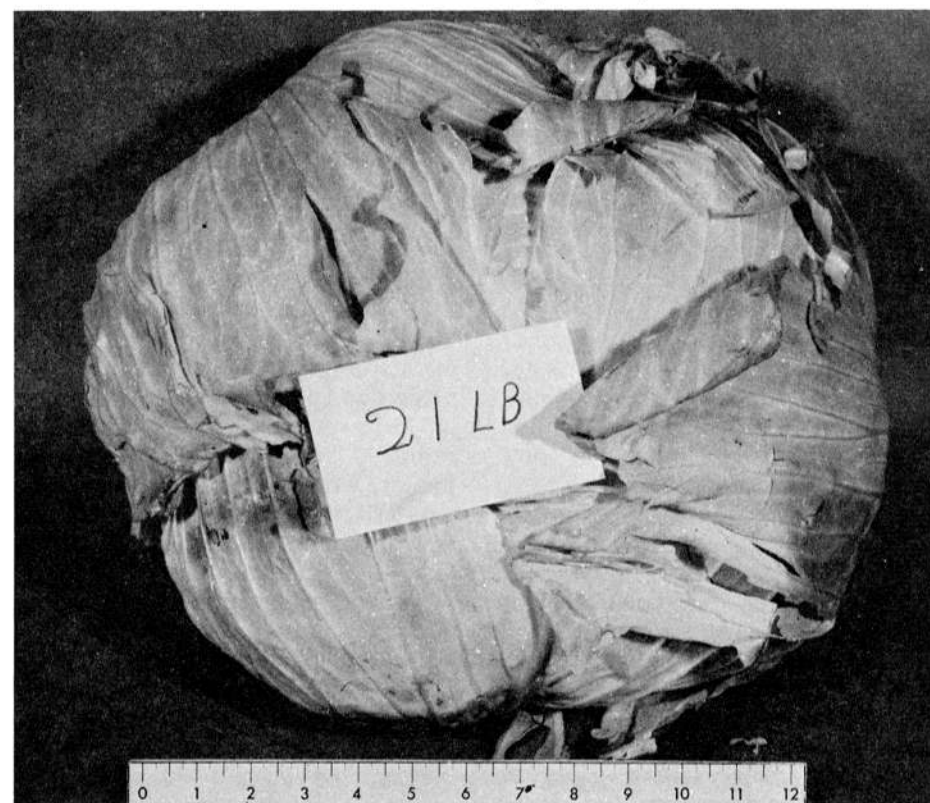
HYBRID/ROCK	
E. H. Randolph	18 lbs. 12 ozs.
J. L. Hatmaker	11 lbs. 14 ozs.
James R. Payne	10 lbs. 8 ozs.

ROUGH FISH	
Dwight Moore	15 lbs. 0 ozs.
R. V. Rinehart	13 lbs. 12 ozs.
C. W. Castle (son)	8 lbs. 13 ozs.

SAUGER	
John L. Woody, Jr.	4 lbs. 2 ozs.
William M. Cox	14 ozs.
Tim Cox (son of W. M.)	12 ozs.

TROUT	
David Price (son of C. E.)	5 lbs. 1 oz.
A. D. Reeder (retired)	1 lb. 12 ozs.
Edward D. Legg	1 lb. 1 oz.

WALLEYE	
H. E. Walters (wife)	4 lbs. 4 ozs.
W. E. Brown	3 lbs. 12 ozs.
Mary Lea Phillips (wife of A. F.)	3 lbs. 8 ozs.



BIG HEAD—This giant cabbage was grown by H. A. Sutton, ORGDP's Lubrication Department. The healthy head was grown in his Loudon garden, and weighed a good 21 pounds!

Craftsmen earn no-injury pins



NINE SAFE YEARS—Gordon Jones (center), Plant and Equipment Division at ORNL, poses with his supervisor, Maitland A. Baker (left), West Research Services, and Harry E. Seagren, director of Plant and Equipment Division, after receiving his nine-year no-injury pin.

An Oak Ridge National Laboratory craftsman in the Plant and Equipment Division was honored by his division last month for working nine consecutive years without an injury, and three other craftsmen received awards for eight-year records.

Program begun in 1968

Gordon Jones, an electrician assigned to the West Research Ser-

vices Department, was given a nine-year no-injury pin by Harry E. Seagren, director of Plant and Equipment Division. Receiving eight-year pins were Robert S. Todd, a machinist; William C. Fox, a boiler-maker; and Frank B. Robertson, a pipefitter, all of whom are assigned to the Welding and Brazing Shop.

Plant and Equipment Division began the no-injury pin presentation program in its Fabrication Department in 1968; the idea was adopted by other P&E departments in 1973. Seagren awarded 326 pins in last month's presentations for 1975.

Honorary wise owls

Seagren also recently presented two other P&E employees, Charles B. Burns and Fred V. Hudson, with honorary memberships in the Wise Owl Club. These awards are given to persons who have avoided eye injuries by wearing safety glasses off the job.

Burns received first and second degree burns on his face and forehead when a flare-up occurred while he was helping a friend reignite a gas furnace, but his eyes were unharmed. Safety glasses saved Hudson from eye injuries when a spool of clothesline wire he was holding uncoiled explosively and one of the loose ends struck him in the face. Hudson's safety glasses were knocked off in the incident and one lens was pitted.

Plant and Equipment Division now has a total of five employees with honorary Wise Owl Club memberships.

question box

Handling insurance claims

QUESTION: Every company I have worked for except Union Carbide had an insurance department that handled all medical insurance claims for employees. All you had to do was forward bills to them and they got the proper reimbursement for you. Anyone with UCC who has ever made significant medical claims must share my complete frustration over the way Blue Cross handles them. You never know what in the world they're going to do next. What can be done about this?

ANSWER: With the large number of employees at each installation, it is not economically feasible for the Company to provide the service of filing medical insurance claims for employees. Each Benefit Plans Office, however, is staffed to answer questions and to assist in obtaining payments in problem cases. If you are having problems, you should contact your Benefit Plans Office.

Regular contact is maintained with each of the insurance companies who provide medical expense benefits. The insurance companies and the Company are interested in trying to improve claims payment. We want to know your specific problem so that we can use it as a means for correcting any deficiencies which might exist.

(Continued from page five)

Job salary range

QUESTION: My supervisor will not tell me the salary range for my job. I work at Y-12. I understand that I should be given this information. Am I correct?

ANSWER: Your supervisor should provide you with your salary range and your position in the salary range if you request that information. Contact your supervisor again. If you continue to have difficulty, get in touch with your department head of the Salary Administration Office at Y-12 (extension 3-7359).

Parking tickets 'hazardous'

QUESTION: When ticket violations for parking in the parking lots are placed on cars, why can't they be put on with something that can be removed by the driver before leaving the lot? One place on my car recently created a blind spot while I was driving home and almost caused me to have an accident.

ANSWER: Locations other than ORNL are using notices which can be put under the car's windshield wiper. ORNL, which has had more than the normal amount of parking violations, is currently using peel-off parking violation notices affixed to the side window of the automobile in order to assure that the individual is aware of the violation. They can be removed rather easily.

retirements



Galyon



Lankford



Delph



Jamerson



Adams



Greiner



Ladd



Pickell



Reynolds

Alfred B. Galyon, Y-12's Tool Grinding, retired last month, ending more than 25 years with Union Carbide. He lives at Route 2, Alpine Drive, Seymour.

Dorthea P. Lankford, Y-12's Fabrication Division, has elected early retirement, after more than 22 years company service. She lives at Route 2, Powell.

Carl D. Delph, an electrical mechanic, and Benjamin C. Jamerson, a painter, both in the Fabrication and Maintenance Division at ORGDP, will retire at the end of August.

Delph lives at 121 Jarrett Lane, Oak Ridge, and has been with Union Carbide since 1950.

Jamerson lives at Route 3, Oliver Springs. He joined Union Carbide in 1951.

Howard Woody, ORGDP's Fabrication and Maintenance, retired at the end of May, ending more than 30 years company service. He retired to his trout farm between Oliver Springs and Oak Ridge.

Among July retirees at Oak Ridge National Laboratory will be Joseph E. Adams, William F. Greiner, Kendall Ladd, Elsie H. Pickell and Ruby I. Reynolds.

Adams, a welder in Plant and Equipment Division, will retire after 22 years of company service. He lives at 411 W. Fifth Avenue, Lenoir City.

Greiner, a designer in Instrumentation and Controls Division, has completed 14 years of company service. His home is at Route 4, Kingston.

A senior laboratory technician in Chemical Technology Division, Ladd will take early retirement. He has been with Union Carbide since 1947; he lives at Route 2, Harriman.

Pickell, a record clerk in Plant and Equipment Division, also will take early retirement. A 28-year employee, she lives at 708 C Street, Lenoir City.

Reynolds will take early retirement from her position as a record clerk in Information Division after 31 years of company service. Her home is at Route 4, Sweetwater.

next issue ...

The next issue will be dated August 5. The deadline is July 28.



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NUCLEAR DIVISION

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